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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/594,221

09/25/2006

Takashi Sueyoshi

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EXAMINER

LOEWE, ROBERT S

ART UNIT

PAPER NUMBER

1796

NOTIFICATION DATE

DELIVERY MODE

02/23/2010

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

DocketingDept@young-thompson.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/594,221	<b>Applicant(s)</b> SUEYOSHI ET AL.	
	<b>Examiner</b> ROBERT LOEWE	<b>Art Unit</b> 1796	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 December 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>1/4/10</u> .  | 6) <input type="checkbox"/> Other: _____                          |

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## **DETAILED ACTION**

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-6 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Interpretation***

The limitation "Si-O-Si bridge structure" as claimed will be interpreted as being Si-O-Si ladder configurations, cage configurations and cyclic configurations as required by instant claim 6, as well as any branched polysiloxanes. Applicants have not provided a closed-ended definition for the term "Si-O-Si bridge structure" in the instant specification.

Components (B) and (C) of the instant claims have structural limitations written using product-by-process format. For such limitations, patentability is determined on the product itself, and not on its method of production. Therefore, any prior art which otherwise teaches or suggests the claimed structure but does not explicitly teach the claimed process may be used as prior art.

Last, components (A), (B) and (C) each have the limitation that they contain "20% by weight or less of a component whose weight average molecular weight is 1000 or less". However, this limitation as written allows for 0% by weight of a component whose weight average molecular weight is 1000 or less. Therefore, no additional ingredients need to be present within each of components (A), (B) and (C) to satisfy this limitation. Further, this limitation does not even further limit components (A), (B) and (C). That is to say, components (A) through

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(C) **themselves** don't have any molecular weight limitations associated with them at all; it is the (optional) components which are claimed which have such a molecular weight restriction.

### ***Claim Objections***

Claim 1 is objected to because of the following informalities: "at at least one site" in line 18 of claim 1 should be changed to --at least one site--.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Young et al. (US 2004/0198924).

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Young et al. teaches thermally stable polysiloxane compositions having an organopolysiloxane bearing vinyl groups, an organohydrogenpolysiloxane crosslinker and a platinum addition cure catalyst (abstract and examples). Young et al. explicitly teaches that the alkenyl-substituted polysiloxanes are prepared from mono-, di and tri- and tetrafunctional silanes (paragraph 0061). Further, the general structure at paragraph 0046 clearly shows the presence of branching units (T and Q units). Such units would inherently yield a bridged structure; further, it is the position of the examiner that owing to the numerous branch points there will inherently be some cyclization of the polysiloxane such that there are cyclic units which can also be referred to as cage units present. Regarding the organohydrogenpolysiloxane crosslinker, Young et al. also teaches that this is derived from mono-, di- and tri- and tetrafunctional silanes (paragraph 0085). Further, the general structure at paragraph 0070 clearly shows the presence of branching units (T and Q units). Such units would inherently yield a bridged structure; further, it is the position of the examiner that owing to the numerous branch points there will inherently be some cyclization of the polysiloxane such that there are cyclic units which can also be referred to as cage units present. Regarding the molecular weights, Young et al. teaches that the molecular weights of both the alkenyl and Si-H functional polysiloxanes range from 400 to 10,000 Daltons (paragraph 0042 and 0068, which partially overlaps with that of instant claim 7. The lower end of the taught phenyl group content slightly overlaps (and touches) the upper limit of instant claim 2 (paragraphs 0039 and 0065). Young et al. further teaches the addition of metal oxides (paragraph 0178) and the working examples prepare cured products.

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Claims 1-6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ikeno et al. (US 2004/0028917).

Ikeno et al. teaches curable organopolysiloxane compositions comprising an alkenyl-substituted polysiloxane, an organohydrogenpolysiloxane and an addition catalyst (abstract). The alkenyl-substituted polysiloxane are taught to include branched and cyclic structures (paragraphs 0026 and 0029). The organohydrogenpolysiloxanes are also taught to include branched, cyclic and three dimensional network type structures (paragraphs 0033-0034). The addition cure catalyst is selected from well-known platinum-based catalysts (paragraph 0037). The viscosities of components (A), (B) [and (D), not a claimed ingredient] are taught to fall in the range of instant claim 8 such that it would have been obvious that the final viscosity of the final formulations would, in some instances, fall within the range of instant claim 8. Ikeno et al. further teaches and exemplifies the addition of silica filler, which is a well-known fine metal oxide powder. Last, Ikeno et al. teaches that the alkenyl-functional polysiloxanes include phenyl groups. Given the end uses of Ikeno et al., the addition of small amounts of phenyl groups to the polysiloxanes taught therein would have been obvious since their use is explicitly taught (paragraphs 0029 and 0034).

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ikeno et al. (US 2004/0028917) in view of a Gelest technical bulletin.

Ikeno et al. renders obvious the curable composition of instant claim 1, as described above. Regarding the molecular weights of components (A) and (B) of claim 1, it is inherent that the molecular weight of the alkenyl-substituted polysiloxane would fall within the range of

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instant claim 7 (paragraph 0028). Further, the viscosity of the organohydrogenpolysiloxane is taught to be preferably from 5 to 500 mPa·s, the middle and upper portions of that range would imply molecular weights in excess of 5,000 as required by instant claim 7 as evidenced by a Gelest technical bulletin (top of page 15).

Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gardner et al. (US 2003/0234458).

Gardner et al. teaches a curable organopolysiloxane composition comprising an alkenyl-group substituted polysiloxane, an organohydrogenpolysiloxane and a catalyst (paragraphs 0016-0018). The alkenyl-functional polysiloxanes are taught to include MT, MDT, and TD resins (paragraph 0045). Such resins inherently possess a high degree of branching which would include cyclic and cage-type regions. The organohydrogenpolysiloxane resin is taught to include those having branching (paragraphs 0050, 0052 and 0108). The taught catalysts are platinum-based catalysts (examples). Gardner et al. also teaches the addition of inorganic fillers (paragraph 0064). It is the position of the Examiner that a person having ordinary skill in the art would have immediately envisaged fine metal oxides as such suitable fillers owing to the vast prior art precedent. Gardner et al. teaches and exemplifies silicone resins having phenyl groups (paragraphs 0043 and 0052). Further, the combination of crosslinking agent B and Resin A would inherently satisfy the aryl group content required by instant claim 2. Such a combination is obvious given the overall teachings of Gardner et al. Further, Gardner et al. exemplifies components (A) and (B) which satisfy the molecular weight requirements of instant claim 7 (resin A-paragraph 0105 and crosslinking agent A-paragraph 0107). Last, while Gardner et al.

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does not explicitly teach the viscosity of the curable compositions falls within the range of instant claim 8, Gardner et al. does explicitly teach that the viscosity of the curable polymer composition can be adjusted so that the cured layer has the desired thickness (paragraph 0078). It has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art (i.e., does not require undue experimentation). *In re Aller*, 105 USPQ 233. “Discovering an optimum value of a result effective variable involves only routine skill in the art.” *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

#### ***Relevant Art Cited***

Additional prior art documents which are relevant to Applicants invention can be found on the attached PTO-892 form.

#### ***Correspondence***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert Loewe whose telephone number is (571) 270-3298. The examiner can normally be reached on Monday through Friday from 5:30 AM to 3:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on (571) 272-1302. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications



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may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/R. L./

Examiner, Art Unit 1796

4-Feb-10